

WHAT IS CLAIMED IS:

1. A field sequential liquid crystal display device, comprising:
a liquid crystal panel having an upper substrate, a lower substrate and a liquid
5 crystal layer therebetween;
a back light under the liquid crystal panel for irradiating light to the liquid
crystal panel and having different light sources for each of the colors Red, Green and
Blue; and
an image signal processor controlling a lighting speed of each of light sources
10 Red, Green and Blue, whereby the light sources are sequentially driven.
2. The device according to claim 1, wherein the liquid crystal layer mode is
Optical Compensated Birefringent (OCB) mode.
3. The device according to claim 1, wherein the liquid crystal layer mode is
15 Ferroelectric Liquid Crystal (FLC) mode.
4. The device according to claim 1, wherein each of the light sources is
disposed at a down edge of the liquid crystal panel.
5. The device according to claim 1, wherein each of the light sources is
disposed directly under of the liquid crystal panel in a repeated sequence of Red, Green
20 and Blue.
6. The device according to claim 1, wherein the back light further includes
a fourth light source.
7. The device according to claim 6, wherein a color of the fourth light
source is within a color range from Green to Blue.

8. A method of color image display for a field sequential liquid crystal display device including an image signal processor, comprising:
dividing a frame into four sub-frames, each sub-frame having a period of one-
5 fourth of one frame period;
driving each of light sources Red, Green and Blue sequentially at a first, a second and a third sub-frame, and
driving a combination of the light sources the combination having up to three colors at a fourth sub-frame.

9. The method according to claim 8, wherein the combination of light sources turned on at the fourth sub-frame is one of combinations consisting of all off, R, G, B, G+B, R+B, R+G, and all on.

10. The method according to claim 8, wherein one frame period is 1/60 second.

11. The method according to claim 10, wherein a lighting time of the light source at each sub-frame is shorter than 1/240 second.

12. A method of color image display for a field sequential liquid crystal display device including an image signal processor, comprising:
dividing a frame having a frame period into four sub-frames having a period of one-fourth of one frame period;

driving each of light sources Red, Green and Blue sequentially at a first, a second and a third sub-frame, respectively;

driving a light source combination with a combination of colors Red, Green and Blue at a fourth sub-frame;

5 classifying a color image input signal into color components R, G and B using a gray level having 256 levels;

deciding a maximum luminance value of the field sequential liquid crystal display device using the gray level;

obtaining an average luminance value of each of the components R, G and B
10 from the color image input signal; and

turning on light sources Red, Green and Blue corresponding to the one of the color components R, G and B having an average luminance value greater than the maximum luminance value at the fourth sub-frame.

15 13. The method of claim 12 further comprising:

converting the input luminance value of component R, G and B and an input luminance value of the fourth sub-frame using the image signal processor.

14. The method according to claim 12, wherein a combination of light
20 sources and R, G, and B turned on at the fourth sub-frame is one of combinations consisting of all off, R, G, B, G+B, R+B, R+G, and all on.

15. The method according to claim 12, wherein the light source which is to be turned on at the fourth sub-frame is decided on the basis of a maximum luminance

value of R, G and B.

16. The method according to claim 12, wherein the frame period is 1/60 second.

17. The method according to claim 13, wherein a lighting time of the light source at each sub-frame is less than 1/240 second.

18. A method of color image display for a field sequential liquid crystal display device including an image signal processor, comprises:
dividing a liquid crystal panel into n numbers of driving areas;
turning on each of light sources Red, Green and Blue sequentially for every divided driving area; and
providing a time interval between driving sections of a previous light source and a next light source.

19. The method according to claim 18, wherein the time interval is formed from a second divided driving area.

20. The method according to claim 18, wherein if an Optically Compensated Birefringence (OCB) mode is selected for a liquid crystal, the time interval may be 0.5msec ~ 1msec.

21. The method according to claim 18, wherein the number n of divided

22. The method according to claim 18, wherein a lighting time of a back
light is dependent on a degree of resolution of the liquid crystal display device and a
response time of the liquid crystal.